

ENVIRONMENTAL ASSESSMENT

REPLACEMENT OF BRIDGES OVER DADDY'S CREEK AND OBED RIVER IN CATOOSA WILDLIFE MANAGEMENT AREA CUMBERLAND COUNTY, TENNESSEE

TENNESSEE VALLEY AUTHORITY

AUGUST 2009

Purpose and Need

On April 21, 2009, the Federal Highway Administration (FHWA) submitted to the Tennessee Valley Authority (TVA) a request for permit approval in accordance with Section 26a of the *TVA Act* for two bridge replacements in the Emory River watershed in the Catoosa Wildlife Management Area (WMA) (see Attachment 1). The bridges are both located in Cumberland County, Tennessee.

The Eastern Federal Lands Highway Division of the FHWA, in cooperation with the Tennessee Wildlife Resources Agency (TWRA), Tennessee Department of Transportation, and the National Park Service (NPS), Obed Wild and Scenic River, proposes to reestablish an adequate transportation system within the Catoosa WMA by replacing the Potter Ford Road Bridge, which washed out in 2001, and replacing the existing, but structurally compromised, Otter Creek Road Bridge. The location of the new Potter Ford Road Bridge would be the same as the bridge that washed out (at Obed River Mile 20.8). The new bridge would require the construction of new piers and would be approximately 120 feet in length and 17 feet in width. Prior to construction of the new bridge, the concrete abutments and approaches and the piers of the washed out structure would be removed. The existing piers would be removed in an environmentally sensitive manner as defined by U.S. Fish and Wildlife Service (USFWS) requirements.

A new bridge (approximately 150 feet in length and 17 feet in width) would replace the existing Otter Creek Road Bridge across Daddy's Creek, but approximately 100 feet upstream of the existing bridge, roughly at the site of an old ford crossing (at Daddy's Creek Mile 2.4). Piers would also be necessary for this bridge, and the old bridge and piers would be removed. Two piers would be constructed in the stream, and riprap would be placed at each end to stabilize the stream banks. The existing bridge would be left in place during construction, but it would be removed upon completion of the new bridge. Minor roadway construction would be necessary to connect the new bridge to the existing roadway. A total of 0.01 acre of concrete and riprap material for both bridges would be placed in the water.

The project is needed because there is limited connectivity between the two sections of the Catoosa WMA since the collapse of Potter Ford Road Bridge over the Obed River, which rendered that road unusable. In addition, the Otter Creek Road Bridge crossing Daddy's Creek is structurally compromised and therefore poses safety concerns. The road and bridge network is used by the NPS and TWRA personnel for resource management activities and by the public for recreation purposes such as hunting, fishing, canoeing, and hiking.

Alternatives

No alternatives were described in the FHWA categorical exclusion (CE). The regulation under which the FHWA CE was completed includes bridge rehabilitations, reconstructions, or replacements. A decision to locate the Otter Creek Road Bridge at an upstream location (100 feet) instead of the existing location was made previous to the review but was also not discussed.

Two alternatives are available to TVA: (1) the “No Build Alternative,” under which TVA would not issue the necessary Section 26a approval to permit the replacement of the two bridges or (2) the “Build Alternative,” under which TVA would issue the necessary Section 26a approval to permit the bridge replacements. As previously mentioned, replacement of the two bridges in the Catoosa WMA is necessary because there is limited connectivity between the two sections of the WMA. The collapse of the Potter Ford Road Bridge has caused that road to be unusable, requiring a detour in excess of 20 miles, and there are safety concerns with the Otter Creek Road Bridge, which is structurally compromised. Therefore, not replacing the bridges under the No Build Alternative would not be feasible to the continued road and bridge network utilized by the NPS and TWRA personnel and by the public. The Build Alternative would alleviate the extended travel times caused by the washed out bridge and the safety concerns identified.

Other Environmental Reviews and Documentation

The FHWA has prepared a CE form dated March 24, 2009, for the Catoosa WMA bridge replacements in accordance with 23 CFR § 771.117(d)(3). The FHWA CE discussed public and agency involvement efforts and evaluated the following resource areas: land use, socioeconomics, recreation, cultural/historic, natural resources/vegetation, floodplains, air/noise, water quality, transportation, and cumulative impacts. The FHWA CE is included as Attachment 2.

TVA prepared Categorical Exclusion Checklist (CEC) 20511 to evaluate the proposed bridge replacements further, and the CEC is included as Attachment 3 and incorporated by reference.

Affected Environment and Evaluation of Impacts

Site Description

The Catoosa WMA lies within the Emory River drainage, which is divided by a number of major stream drainages, including the Obed River, Daddy’s Creek, Clear Creek, and Otter Creek. The terrain is moderately rolling, ranging in elevation from 1,100 feet to 2,300 feet, with deep canyons cut by streams. The Obed Wild and Scenic River is located on the Cumberland Plateau and includes over 45 miles of creeks and rivers included in the wild and scenic river area. More than 98 percent of the Catoosa WMA is forested.

The Obed River and Daddy’s Creek are considered Exceptional Tennessee Waters and are part of the Obed Wild and Scenic River system. The Obed River and Daddy’s Creek have been classified for the following designated uses: fish and aquatic life, irrigation, livestock watering, wildlife, and recreation. These streams are within the critical habitat of a small fish, the spotfin chub (*Erimonax monachus*), which is federally listed as endangered.

Impacts Evaluation

TVA’s issuance of Section 26a approval with the subsequent replacement of the two bridges has the potential to affect endangered species. The FHWA requested formal

consultation on August 14, 2008, and transmitted a biological assessment (BA) to USFWS for the projects. On February 5, 2009, the Cookeville office of USFWS issued a biological opinion (BO) based on its review of the proposed bridge replacements and their effects on the spotfin chub, purple bean (*Villosa perpurpurea*), Cumberland bean pearlymussel (*Villosa trabalis*), Cumberland rosemary (*Conradina verticillata*), and Virginia spiraea (*Spiraea virginiana*) pursuant to Section 7 of the *Endangered Species Act* (ESA). Potential direct impacts to the species from the proposed action could result from sediment entering the streams from areas disturbed during construction, construction of in-stream piers, concrete spills, or equipment staged too close to the stream, which could add pollutants during storm events. The BO, which contains an Incidental Take Statement and required reasonable and prudent measures and implementing terms and conditions, was received by FHWA on February 9, 2009. The BO also addressed effects to designated critical habitat for spotfin chub and purple bean. The USFWS determined that this level of expected take is not likely to result in jeopardy to any of these species or destruction or adverse modification of critical habitat for spotfin chub or purple bean.

TVA submitted to the USFWS on June 25, 2009, a letter stating our agreement with the FHWA BA determinations regarding impacts to endangered species and designated critical habitats. This correspondence requested that TVA be added as a party to the consultation. The USFWS responded to TVA on July 7, 2009, with an amendment to the BO to include TVA as part of the consultation and thus fulfill the agency's obligations under Section 7 of the ESA.

As described in CEC 20511 (Attachment 3), the proposed action is not anticipated to affect any federally listed terrestrial or plant species. There are no historic properties or wetlands in the project area. The bridges are a repetitive action, and therefore, floodplain impacts would be minimal. Potential impacts to all other resource areas evaluated in the CEC would be insignificant.

Mitigation Measures

The USFWS BO dated February 5, 2009, established reasonable and prudent measures and implementing terms and conditions, which when employed would minimize impacts to the identified species and their habitats in the Obed River and Daddy's Creek (including designated critical habitat for the spotfin chub and purple bean). The BO also established a project "action" area, which includes a suitable buffer area both upstream and downstream of the proposed work area. By letter dated July 7, 2009, USFWS revised the existing February 5, 2009, BO to recognize TVA's agreement to comply with the reasonable and prudent measures and implementing terms and conditions in any Section 26a approval issued for these bridge replacements. These measures include the following:

1. In-stream work would be done to avoid direct effects to the listed species.
2. If pouring of concrete at the project sites were necessary, it would be conducted in a way that avoids or minimizes the potential for spillage.
3. Construction of bridge piers would be done in a way that minimizes impacts to stream habitat.
4. Removal of the existing bridge over Daddy's Creek would be done in a manner that would minimize the potential for adverse impacts to the stream.

Agencies and Others Consulted

The FHWA CE discusses an NPS review of the proposal for bridge replacements in accordance with Section 7(a) of the *Wild and Scenic Rivers Act* (Public Law 90-542). The FHWA CE states that the NPS agreed with the USFWS's recommendation regarding protection measures and that with strict adherence to these measures, the project as described would not "invade or unreasonably diminish" the scenic, recreation, geological, and fish and wildlife values of the area.

As discussed above, FHWA has formally consulted with the USFWS concerning this project, and a BO has been issued by the USFWS. TVA requested an amendment to this BO to include TVA as a consulting agency. USFWS has granted this request and issued a revised BO and Incidental Take Statement.

By letter dated March 13, 2008, the Tennessee State Historic Preservation Officer notified the FHWA that he concurred there are no National Register of Historic Places-listed or -eligible properties impacted by the proposed bridge replacements and that his office has no objections to proceeding with the project.

On June 11, 2009, the Department of the Army (DA) issued a determination that the two proposed bridge replacements in the Catoosa WMA have been previously authorized under DA Nationwide Permit #23, which became effective March 19, 2007 (File No. 2009-00892).

The Tennessee Department of Environment and Conservation issued a public notice (NRS 09.129) on June 16, 2009, requesting comment on the proposed alterations. The comment period ended on July 16, 2009. The state issued a 401 certification on July 31, 2009.

Relevant agency correspondence is included as Attachment 4.

Attachments

1. Section 26a application
2. FHWA Categorical Exclusion dated March 24, 2009
3. TVA CEC 20511
4. Agency Correspondence